

Amendments to the Claims

1. (Currently amended) In a fermentation process, the process including the steps of placing a fermentation medium in a vessel, maintaining the fermentation medium in the vessel for a sufficient time to enable a fermentation process to occur in the vessel, and withdrawing a product from the vessel,

the improvement wherein a stream of substantially pure oxygen is injected into the vessel while the fermentation process is occurring, and wherein the stream of substantially pure oxygen comprises the sole reactive gas, from any source external to the vessel, that is injected into the vessel,

wherein the stream of substantially pure oxygen is moved through the vessel solely due to pressure in an oxygen supply.

2. (Cancelled)

3. (Original) The improvement of Claim 1, wherein the process further comprises mechanically agitating the fermentation medium, measuring a concentration of oxygen in an exhaust line extending from the vessel, and adjusting a flow of oxygen into the vessel in response to a measured concentration of oxygen.

4. (Original) The improvement of Claim 3, wherein the measuring and adjusting steps are performed substantially continuously.

5. (Original) The improvement of Claim 1, wherein the process is

performed without mechanical agitation of contents of the vessel, and wherein the process includes measuring a concentration of oxygen in a head space in the vessel, recycling gas from the head space into the vessel if the concentration of oxygen is greater than a predetermined level, and venting gas from the head space to a region outside the vessel if the concentration of oxygen is less than a predetermined level.

6. (Original) The improvement of Claim 5, wherein the measuring step is performed substantially continuously.

7-24. (Cancelled)

25. (New) In a fermentation process, the process including the steps of placing a fermentation medium in a vessel, maintaining the fermentation medium in the vessel for a sufficient time to enable a fermentation process to occur in the vessel, and withdrawing a product from the vessel,

the improvement comprising injecting a stream of substantially pure oxygen into the vessel while the fermentation process is occurring, and wherein the stream of substantially pure oxygen comprises the sole reactive gas, from any source external to the vessel, that is injected into the vessel,

wherein the injecting step is performed without any blower or compressor.

26. (New) In a fermentation process, the process including the steps of placing a fermentation medium in a vessel, maintaining the fermentation medium in the vessel for a sufficient time to enable a fermentation process to occur in the vessel, and withdrawing a product from the vessel,

the improvement comprising injecting a stream of substantially pure oxygen into the vessel while the fermentation process is occurring, and wherein the stream of substantially pure oxygen comprises the sole reactive gas, from any source external to the vessel, that is injected into the vessel,

wherein the injecting step is performed without mixing the oxygen with a liquid.